

W. DON QUIGLEY

OIL AND MINERALS CONSULTANT
SUITE 440, 57 W. SO. TEMPLE - SALT LAKE CITY, UTAH 84114

October 25

Mr. James W. Smith, Jr.
Coordinator of Mined Land Development
4241 State Office Bldg.
Salt Lake City, Utah 84114

Re: Form MR-1 for the North Lily Project
for Affiliated Mining Inc.
PRO/023/007, Juab County, Utah

Dear Mr. Smith:

Attached is a revised Form MR-1 with correlated maps and drawings for our proposed North Lily project. We realize that our planned operation is not a "mining" project as defined in Title 40-6, so perhaps a brief explanation is in order.

The project site is southwest of Eureka, Utah at the former location of the Tintic Smelter Co. They processed local ores during the 1907 to 1915 period. All the land area involved was previously disturbed by the earlier operations. The property is all patented or fee lands belonging to the North Lily Mining Company, a Utah corporation with offices at 405 South Main Street, Salt Lake City, Utah 84114.

We will not be mining any surface or underground natural deposits. The material we want to process is in a tailings pile on top of slag from the old smelter. When we are through, the existing high tailings pile will be removed and only the low slag pile will remain. The reprocessed tailings will be used to partially cover hazzardous areas left by the old milling and smelting operation. Area soils will then cover the reprocessed tailings and be revegetated. Our intent is to leave the area in better condition than it has been left over the past 60 or 70 years.

We would appreciate your assistance in expediting an approval of this request as we are rapidly approaching difficult construction weather. If there are minor additions or revisions required, would it be possible to receive a temporary approval to begin construction? The mill foundation needs to be in and cured prior to our relocation of the mill from Elko. If we don't get the mill out of the Elko site soon, the road will be impassable until next summer.

If any of our people can help in any way with further details, please call Douglas Lee at 225-2661 or me at 359-3575.

Sincerely yours,

W. Don Quigley
W. Don Quigley
Consultant

0004

Scott M. Matheson
Governor



STATE OF UTAH
DEPARTMENT OF HEALTH
DIVISION OF ENVIRONMENTAL HEALTH
Utah Water Pollution Control Committee

150 West North Temple, P.O. Box 2500, Salt Lake City, Utah 84110-2500

Calvin K. Sudweeks
Executive Secretary
Rm 410 (801) 533-6146

October 19, 1983
533-6146

James O. Mason, M.D., Dr.P.H.
Executive Director
Department of Health
801-533-6111

Kenneth L. Alkema
Director
Division of Environmental Health
801-533-6121

MEMBERS

Grant K. Borg, Chairman
W. Lynn Cottrell
Harold B. Lamb
Kenneth L. Alkema
Franklin N. Davis
Dale P. Bateman
Joseph A. Urbanik
C. Arthur Zeldin
Mrs. Lloyd G. Bliss

Mr. W. Don Quigley
Oil and Mineral Consultant
57 West South Temple, Suite 440
Salt Lake City, UT 84101

JIM

OCT 25 1983

Re: North Lily Project
Tailings Pond
Eureka, Utah

Dear Mr. Quigley:

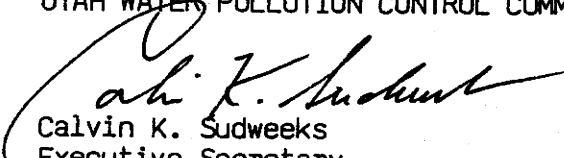
We have received your submittal of September 28, 1983 regarding the geotechnical assessment of the clay liner material for the leach pad at the above referenced project site.

It is noted that permeability tests were conducted on samples of clay soil (Snell Pit) consolidated to 100 percent of maximum Standard Proctor density. Permeability rates for the compacted sample were approximately 1/2 inch per year. It is our understanding the specification will call for this degree of compaction in the 2-foot clay liner.

It appears the clay liner will be an adequate substitute for the previously approved (Ref. our letter of May 21, 1982) synthetic liner. The 2-foot clay liner is therefore approved based on the condition that field density test results of the installed liner will be submitted to our office and demonstrate conformance with the above specification.

Sincerely,

UTAH WATER POLLUTION CONTROL COMMITTEE


Calvin K. Sudweeks
Executive Secretary

RLR:gb

cc: Central Utah District Health Department/Juab
2426

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES AND ENERGY
DIVISION OF OIL, GAS AND MINING
4241 State Office Building
Salt Lake City, Utah 84114
Telephone: (801) 533-5771

NOTICE OF INTENTION TO COMMENCE MINING OPERATIONS
and
MINING AND RECLAMATION PLAN

Based on Provisions of the Mined Land Reclamation Act, Title 40-8, Utah Code Annotated 1953, General Rules and Regulations and Rules of Practice and Procedures, By Order of the Board of Oil, Gas and Mining.

Mine Name: North Lily Project Mine Plan Date: August 25, 1983
File No.: ACT/ / Date Received: _____
Operator: Affiliated Mining Inc. DOGM Lead Reviewer: _____
Mineral(s) to be Mined: _____

Please attach other sheets as needed and include cross-reference page numbers when used.

1. Name of Applicant or Company: Affiliated Mining Inc.
Corporation (X) Partnership () Individual ()
2. Address: Permanent: 555 First Security Bldg., 405 South Main St.
Salt Lake City, Utah 84111
Temporary: _____
3. Company Representative: Name: W. Don Quigley
Title: Consultant
Address: 57 West South Temple, SLC, UT 84101 Phone: 801-359-3575
4. Location of Operation: County(ies) Juab
Township(s): 10S Range(s): 3W Section(s): 35
Township(s): _____ Range(s): _____ Section(s): _____
Township(s): _____ Range(s): _____ Section(s): _____
5. Owner(s) of record of the surface area within the land to be affected:
Name: North Lily Mining Co. Address: As Above
Name: _____ Address: _____
Name: _____ Address: _____
Name: _____ Address: _____

6. Owner(s) of record of the minerals to be mined:

Name:	North Lily Mining Co.	Address:	555 First Security Bldg. SLC. UT 84111
Name:		Address:	
Name:		Address:	
Name:		Address:	

7. Owner(s) of record of all other minerals, including oil and gas, within any part of the land to be affected:

Name: North Lily Mining Co. **Address:** As Above
Name: _____ **Address:** _____
Name: _____ **Address:** _____

8. Have the above owners been notified in writing? ☒ Yes, () No. If no, why not?

9. Have you or any other person, partnership or corporation associated with you received an approval of a Notice of Intention to Commence Mining Operations by the State of Utah for operations other than described herein? () Yes, (X) No. If yes, list all approval numbers now under surety:

10. Source of Operator's legal right to enter and conduct operations on the land to be covered by this Notice:

An Operating Lease To Affiliated Mining, Inc.

11. Give the names and mailing addresses of every principal Executive, Office, Partner (or person performing a similar function) of Applicant:

	Name	Title	Address
A.	Claude K. Lee	Secretary	Box 266, Paxton, IL 60957
B.	Sam B. Miller	Treasurer	Suite 600, 300 Union Blvd. Lakewood CO
C.	August E. Waegemann	President	1740 Crockett Ln. Hillsborough, CA 9401
D.	Douglas K. Lee	Vice President	P.O. Box 1659, Orem, UT 84057

12. Has the Applicant, any subsidiary or affiliate or any person, partnership, association, trust or corporation controlled by or under common control with the Applicant, or any person required to be identified by Item 11 ever had an approval of a Notice of Intention to Mine or Explore withdrawn or has surety relating thereto ever been forfeited? () Yes, (X) No.

If yes, please explain: _____

Please note: Section 40-8-13 of the Act provides that information relating to the location, size or nature of the deposit, and marked confidential by the Operator, shall be protected as confidential information by the Board and the Division and not be a matter of public record in the absence of a written release from the Operator, or until the mining operation has been terminated as provided in Subsection (2) of Section 40-8-21 of the Act. This material should be so marked and included on separate cross-referenced sheets.

13. All maps and plans prepared for submission shall be of adequate scale and detail to show topographic features and clearly indicate the following details:

- A. Location and delineation of the extent of the land previously affected, as well as the proposed surface disturbance. Exhibit #1
- B. Existing active or inactive, underground or surface mined areas. None
- C. Boundaries of surface properties, including ownership. Exhibit #2, Pink Outline
- D. Names and locations of:
 - (1) Lakes, rivers, streams, creeks and springs.
 - (2) Roads, highways and buildings. Exhibit #1
 - (3) Active or abandoned facilities. Exhibit #1
 - (4) Transmission lines within 500 feet of the exterior limits of None land affected.
 - (5) Gas and/or oil pipelines. None
 - (6) Site elevation. 6080' Exhibit #1
- E. Drainage patterns of land affected: Exhibit #2
 - (1) Overburden or topsoil removal and storage areas. Exhibit #1
 - (2) Areas susceptible to erosion. None
 - (3) Natural waterways. None
 - (4) Constructed drainages, diversions, berms and sediment ponds None (design calculations shall be included).
 - (5) Receiving waters (State Health classification). None
 - (6) Directional flow of all surface waters (indicated by arrows). Exhibit #2
- F. Known drill holes: Exhibit #1
 - (1) Location. 3000 ft. West
 - (2) Status. 8'' Process Well

- (3) Depths and thicknesses of:*
- a. Water bearing strata. Well depth is 530 feet
 - b. Mineral deposits. None
 - c. Toxic or potentially toxic materials. None
 - d. Surficial or plant supporting material (topsoil and subsoil). Well is 3000 ft. from area of disturbance
- G. Locations of disposal and stockpile areas: Exhibit #1 and #2
- (1) Topsoil and subsoil storage areas. Exhibit #1
 - (2) Overburden storage area. None
 - (3) Waste, tailings, rejected materials. Exhibit #2
 - (4) Raw ore stockpile(s). Exhibit #2
 - (5) Tailings-ponds and other sediment control structures. Exhibit #1 and #2
 - (6) Discharge points, water effluents (see #15[D]). None

All maps should have a color code or other suitable legend used in preparation to clearly indicate surface features of the land affected. A general reference map completed on a 7.5 (1:24,000) USGS quadrangle sheet is recommended with additional large scale maps included for practical delineation of individual facilities, (e.g., 1:200, 1:500).

14. Acreage to be disturbed:

- A. Minesite (operating, storage, disposal areas, etc.): Less than 5 acres (total)
- B. Access/haul roads/conveyors: - None, will use existing abandoned county
- C. Associated on-site processing facilities: 1 acre (part of 14-A) roads

15. Describe mining method to be employed, including: None

A. Mining sequence:

- (1) Map delineating the yearly sequential disturbance (if surface mine) and/or surficial disturbance. None
- (2) Narrative (including on-site processing or mineral treatment):
Tailings and mine dumps on company property will be
reprocessed by crushing, screening, flotation and cyanidation.

Attach supplemental sheets and/or diagrams as necessary with
cross reference to page number here: Exhibit #5

*Stratigraphic or lithologic logs if correlated to footage depths may be presented when labeled (maps or logs should be labeled confidential, if so desired).

B. If sedimentary deposit seam(s):

(1) Thickness(es): Not Applicable

(2) Dip: _____

(3) Outcrop: _____

C. Will any underground workings or aquifers be encountered? () Yes, (X) No. If yes, describe potential impacts and protection measures to be taken: _____

D. Describe any active discharge or proposed discharge of water from mine or site area. Include water quality data and lab test reports. If attached sheets or reports are included, cross reference to page number here: _____

None

16. Have all necessary water rights been appropriated? (X) Yes, () No. How will water be obtained? Please explain: A water well permit has been received and well has been drilled.

17. Proposed or estimated duration of mining operation: 48 to 72 months
Will the permit term be for a lesser amount of time, subject to review? (e.g., for surety estimate reasons). () Yes, (X) No. If yes, how long? _____

18. Describe the construction and maintenance of access roads including:

A. Procedures (drainage and erosion control methods).

B. Cross section(s).

C. Profile(s) of proposed road grade(s).

No new access roads will be required since the plant is located beside a main State Highway (HWY 6-50)

Attach supplemental diagrams and cross reference to page number here: _____

19. Prior land use(s): Grazing, Smelting & Milling

Current land use(s): Slag dump, mill tailings storage

Possible projected or prospective future land use(s): Tailings storage, minimal wildlife habitat.

20. Describe methods of tree and brush removal: Mechanical scrapers will be used to remove the sparse vegetation along with the topsoil
-
-
-

Provide estimate of, and method of obtaining existing vegetation cover (%):

We have taken 30 photos of the area to be disturbed and have

Walked the area at 200 feet intervals. The pinyon and juniper cover varies from 0 to 5% and the sage and rabbitbrush from 20 to 80%.

What types of dominant vegetation are present? Mostly sagebrush and rabbitbrush with minimal miscellaneous grasses plus a few pinyon pine and junipers.

Photographs and/or maps may be attached to these forms, cross reference to page number here: _____.

21. Soils (surficial plant supportive material) and overburden: Except where slope or rocky terrain make it impossible, all surficial materials suitable as a growth medium shall be removed, segregated and stockpiled according to its ability to support vegetation (as determined by soil analysis and/or practical revegetation experience) prior to any major excavation. (Suggested minimum requirements are the top six inches, or the "A" horizon, whichever is larger.)

- A. What is the pH range of the soil before mining? 7.8 to 8.8
Name of person or agency and method of determining pH: Front Range Labs, Ft. Collins, Colorado, used paste technique with PH meter.
Attach lab report if available. Cross reference page number here: Not Available
- B. Average depth of topsoil and subsoil to be stripped and stockpiled: 6" to 12". Calculated volume of soil to be stockpiled: Approximately 250 cu. yards.
- C. Describe the method for removing and stockpiling topsoil and subsoil, including measures to protect topsoil from wind and water erosion, compaction and pollutants: Shoved to side of area by scrapers and to minimize wind and water erosion, a quick growing cover will be seeded over it.
-
-
- D. Describe the method for removing and stockpiling overburden. Describe and discuss the acidity or alkalinity (pH) or other characteristics which would affect revegetation: No overburden will be removed from the site. Any that is moved in the tailings pond area will be utilized in the pond dam area.
-
-
-

- E. Rock subjected to processing such as waste rock, tailings, etc., and which is to be disposed of on- or off-site must be subjected to a toxicity analysis. The method of determination, results and suitable disposal methods must be explained in detail, including means for containment and long range stability*: None anticipated, existing tailings are 7.2 PH and will be the same after reprocessing.
- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____

22. Describe the methods used to minimize public safety and welfare hazards during and after mining operations including:

- A. Shaft, tunnel and drill hole closure. None
- B. Disposal of trash, scrap metal and wood and extraneous debris, waste oil and solvents, unusable buildings and foundations, sewage and other materials incident to mining.
- C. Posting of appropriate warning signs and/or fences or berms to act as barriers (e.g., above highwalls) in locations where public access is available.

No shafts or tunnels are involved in the proposed plan. Trash will be kept in a bin and hauled to the City dump periodically. Scrap metal, extra wood, supplies, etc. will be kept in a building or fenced yard used for that purpose. Chemical toilets will be used initially for personal use. Mill waste waters will be deposited in the tailings pond designed for that purpose. Mill signs will be placed on the property.

***"Toxic" means any chemical or biological or adverse characteristic of the material involved which could reasonably be expected to negatively affect ecological or hydrological systems or could be hazardous to the public safety and welfare.

23. Grading and soil redistribution.

No mining will take place

- A. Attach pre- and postmining contour cross sections, typical of regrading designs. Cross reference to page number here: _____.
- B. Describe the method(s) of overburden replacement and stabilization and highwall elimination, including: (a) slope factors; (b) lift heights; (c) compaction; (d) terracing, etc., (e) also include testing procedures: This entails no mining; a portion of existing tailings or dump materials are to be reprocessed. This will result in no movement of overburden or replacement. Vertical profiles of existing piles will be reduced and the creation of a broad, flatter tailings pile will fill in and cover hazardous portions of an old, abandoned mill site on patented land.
- _____
- _____
- _____
- C. What method of spreading topsoil and subsoil or upper horizon material on the regraded area will be employed? Rubber tired and track mounted loaders, scrapers or dozers will be used as appropriate to the area on slope.
- _____
1. Indicate the approximate depth of soil cover after final surfacing 4 to 8 inches.
2. What tests will be performed to adequately evaluate the potential of the soil to successfully support intended revegetation? None since surface topsoil will be stripped off, stockpiled and reused, it should support the same area type vegetation it now has.
3. What soil amendments or fertilizers will be needed as an aid to revegetation? None
- Type: _____ Rate: _____
- Type: _____ Rate: _____
- Type: _____ Rate: _____
4. What additional surface preparations will be used? Describe (a) drainage, erosion and sediment control measures; (b) maximum slope characteristics; and (c) highwall reclamation. Grading machinery will be used to smooth surfaces and then the stockpiled topsoils will be used to cover the finished tailing heap and mill site areas. Tailings impoundment sides will not exceed 45° and will be contoured to minimize the possibility of soil erosion. (Note that existing roadways with similar slopes in the tailings area are not eroded after approximately seventy years with only natural revegetation)

5. Describe methods which may be particularly applicable to waste disposal areas determined to be potential problem areas.
City dump will be used for disposition of misc. scrap wood, metal and wastes.

- D. Describe plans for either leaving or reclaiming the roads and pads associated with the operation. The structures and foundations installed for this operation will be removed and the areas will be regraded and revegetated to its approximate original topography and vegetative habitat wherever possible.

24. Impoundments: All evaporation, tailings and sediment ponds; spoil piles, fills, pads and regraded areas shall be self-draining and nonimpounding when abandoned unless previously approved as an impounding facility by a lawful state or federal agency. In view of this, please describe the reclamation of all related areas in the operation and include pertinent items enumerated in C, 1-5 above.

Same as 23 - C & D above.

25. Revegetation plans:

- A. What organization, agency or person will specifically be performing the revegetation? Affiliated Mining Inc.
- B. Will the affected area be subject to livestock or wildlife grazing?
() Yes, (x) No. Will vegetation protection be needed to allow for a determination of the successful revegetation criteria outlined in the Mined Land Reclamation Act, Rule M-10(12)? () Yes, (x) No. If yes, what measures will the operator take?
- C. Will irrigation be used? () Yes, (x) No. Type: _____
_____. For how long? _____.

- D. Test plots initiated during the early stages of mine development provide good bases from which a successful revegetation program can be adapted for later implementation. Will test plots be employed? () Yes, (x) No. If yes, describe on an additional sheet(s) and attach. Cross reference page number here and show location on facilities map: _____.
- E. Please attach a revegetation plan and schedule including: Exhibit #4
1. Species to be used.
 2. Rate of seed application/acre.
 3. Season to be planted.
 4. Seedbed preparation techniques.
 5. Planting location, slope face direction, variability, method of application, covering, etc. Seed will be applied by broadcasting
 6. Mulch and fertilizer application, if used. None
- F. Describe any other maintenance procedures which may be used, if needed, to guarantee successful revegetation: revegetated areas will be examined regularly and soil samples will be taken yearly. If observations reveal poor vegetation cover, these areas will be reseeded.

26. Please provide a reclamation schedule including:

- A. Estimated time for construction. 6 months
- B. Estimated time for interim reclamation. 1 month
- C. Estimated duration of the mining operation. Milling: 48 to 72 months.
- D. A time table for the accomplishment of each major step in the reclamation plans. Attach the schedule and cross reference to the page number here: All reclamation will be completed within one year of completion of milling activities.

27. A surety guarantee must be provided for the mining operation (see Rule M-5 Mined Land Reclamation Act). In calculating this amount, the Division will consider the following major steps based on the information provided in this report:

- A. Clean up and removal of structures.
- B. Backfilling, grading and contouring.
- C. Topsoil and subsoil redistribution and stabilization.
- D. Revegetation (i.e., preparation, seeding, mulching, irrigation).
- E. Labor.
- F. Safety and fencing.
- G. Monitoring, and reseeded if necessary. Approximately \$10,000 per similar site cost in 1983.

To assist the Division, the operator may attach a list of costs and factors which would satisfy these areas. Substantiation of these factors, i.e., unit costs and how they are derived, should accompany the list. Cross reference the page number here: _____.

28. A request for a variance from specific commitments to Rule M-10 (Reclamation Standards) of the Mined Land Reclamation Act may be submitted with adequate written justification. If after presentation of information adequately detailing the situation, a determination is made that finds a portion of the rule inapplicable, a variance may be granted by the Division.

I hereby commit the applicant to comply with Rule M-10, "Reclamation Standards" in its entirety, as adopted by the Board of Oil, Gas and Mining on March 22, 1978.

The applicant will achieve the reclamation standards for the following categories as outlined in Rule M-10 on all areas of land affected by this mine, unless a variance is granted in writing by the Division.

<u>Rule</u>	<u>Category of Commitment</u>	<u>Variance Requested?</u>
M-10(1)	Land Use	_____
M-10(2)	Public Safety and Welfare	_____
M-10(3)	Impoundments	_____
M-10(4)	Slopes	_____
M-10(5)	Highwalls	_____
M-10(6)	Toxic Materials	_____
M-10(7)	Roads and Pads	_____
M-10(8)	Drainages	_____
M-10(9)	Structures and Equipment	_____
M-10(10)	Shafts and Portals	_____
M-10(11)	Sediment Control	_____
M-10(12)	Revegetation	_____
M-10(13)	Dams	_____
M-10(14)	Soils	_____

I believe a variance is justified on a site-specific basis for the previous subsections of Rule M-10 as indicated. A narrative statement explaining these concerns is attached.

STATE OF

Utah

COUNTY OF

Salt Lake

I, H. Don Gungley, having been duly sworn depose and attest that all of the representations contained in the foregoing application are true to the best of my knowledge; that I am authorized to complete and file this application on behalf of the Applicant and this application has been executed as required by law.

Signed:

H. Don Gungley

Taken, subscribed and sworn to before me the undersigned authority in my said county, this 30th day of September, 1983.

Notary Public:

Sherill L. Bateman

My Commission Expires:

10-3-83

PLEASE NOTE:

Section 40-8-13(2) of the Mined Land Reclamation Act provides for maintenance of confidentiality concerning certain portions of this report. Please check to see that any information desired to be held confidential is so labeled and included on separate sheets or maps.

Only information relating to the location, size or nature of the deposit may be protected as confidential.

Confidential Information Enclosed: () Yes (X) No

25-E, Page 10 of Form MR-1 "Revegetation"

Following the spreading of the topsoil over the reclaimed areas, seed will be broadcast in the following blend and rates:

Crested wheatgrass - 3 lbs Pure Live Seed (PLS)/ac
Western wheatgrass - 6 lbs PLC/ac
Indian ricegrass - 4 lbs PLS/ac
Palmer penstemon - 1/2 lb PLS/ac
Western yarrow - 1/4 lb PLS/ac
Yellow sweetclover - 3 lbs PLS/ac
Alfalfa - 3 lbs PLS/ac
Big sagebrush - 1/2 lb PLS/ac
Rubber rabbitbrush - 1/2 lb PLS/ac
Antelope bitterbrush - 3 lbs PLS/ac

TOTAL- 23 3/4 PLS/ac

Reclamation work and seeding will be done in the fall, prior to winter snowfall.